How is breathlessness remembered by patients with Medically Unexplained Dyspnea?

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Background

Retrospective reports of breathlessness serve as an important source of information for clinicians. Several biases may influence memory for symptoms, but little information exists on how breathlessness episodes are encoded and remembered by persons reporting breathlessness unrelated to physiological dysfunction. In the present study we investigated whether memory for experimentally induced breathlessness episodes in patients with medically unexplained dyspnea (MUD) differed from that of matched healthy controls.

Method

Female MUD patients (N=22) and matched healthy controls (N=23) participated in two trials of a rebreathing paradigm, resulting in a progressive increase in PCO_2, ventilation and breathlessness. Order of the trials was counterbalanced across participants. Dyspnea ratings were collected at three moments: (1) continuously during symptom induction, (2) after the experiment, (3) after 2 weeks. Respiratory parameters were measured continuously during the trials. State NA, PA and anxiety were evaluated at baseline and after every trial.

Results

Both rebreathing trials resulted in higher concurrent dyspnea ratings as well as increased minute ventilation among patients compared to controls. Retrospective overestimation (compared to concurrent measurement) was observed in both groups. However, no increase in overestimation was observed across a two week time frame and no interaction with Group was found. Compared to baseline ratings, dyspnea induction resulted in higher anxiety and lower PA ratings in the patient group, while state NA remained on similar level.

Discussion

The findings show that retrospective dyspnea reports are biased in a similar way in both patients and healthy controls. Since overreporting in the patient group was found across all measurement occasions, starting from online ratings, it suggests that biases in that group may operate predominantly during symptom perception/memory encoding. Those findings, together with the lack of increase in overestimation over time, could inform future clinical interventions tackling symptom overestimation.

Keywords: memory for dyspnea, medically unexplained breathlessness